



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/509,616 | 05/25/2005 | Migaku Takahashi | YIPO-0002 | 7845 |
| 37013 7590 04/07/2010 ROSSI, KIMMS & McDOWELL, L.L.P. 20609 Gordon Park Square, Suite 150 Ashburn, VA 20147 | | | | |
| EXAMINER | | | | |
| LOUIE, MANDY C | | | | |
| ART UNIT | | PAPER NUMBER | | |
| 1715 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 04/07/2010 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

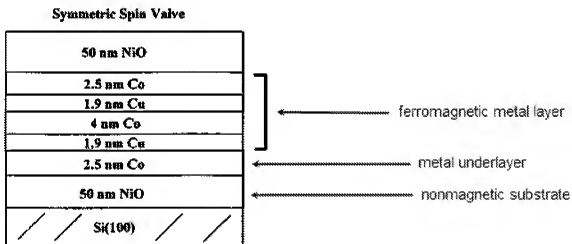
ptomail@rkmlegalgroup.com

Supplement to PTO-303
Amendments & Request for Reconsideration

Response to Arguments

1. Applicant's arguments filed 03/04/10 have been fully considered but they are not persuasive.

In regards to applicant's argument of Egelhoff failing to teach all the elements recited in claim 1, more specifically because the underlayer in Egelhoff is NiO; explanation of Egelhoff (fig. 1) is as follows:



Contrary to applicant's arguments of Egelhoff teaching the underlayer is NiO, the examiner interprets "metal underlayer" broadly and reasonably to be any metal layer formed on a substrate, which would include the first Co layer as indicated above. Hence, arguments drawn to a NiO underlayer is moot. And even though the applicant claims the metal underlayer provides the described advantages as found on page 4 of the submitted remarks, such advantages appears to be drawn to the particular use of Cr

or Cr alloys, wherein such materials (i.e. Cr) for the metal underlayer is not recited by the claims. Therefore, the rejection of the claims over the prior art, Egelhoff, is maintained.

It is noted that the applicant discloses "sections entitled 'Metal underlayer' on page 10 of the translated specification of this application" on page 4 of applicant's remarks; however, no certification of an official translation of the applicant's foreign priority document has been provided and the descriptions appears to be taken from the applicant's original disclosure. So it is assumed that such excerpts were taken from the applicant's US application rather than a translated document of foreign priority application.

In regards to applicant's argument of Egelhoff teaching the optimal value of O₂ pressure is 5×10^{-9} Torr and that the beneficial effect of oxygen exists in a rather narrow window around 5×10^{-9} Torr; it is reiterated that differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of ranges is the optimum combination of values (MPEP 2144.05.II.A.). This decision is would obviously be analogous to pressure differences and other process parameters; wherein Egelhoff does teaches the partial pressure of either nitrogen or oxygen gas having an effect over the adsorption or concentration of each material for the layers [pg 6144-6146] as previously cited in the prior action. Again, the differences in configuration between the

applicant's invention and Egelhoff, which is not recited in the instant claims, and arguments drawn to a NiO underlayer are moot.

In regards to applicant's argument of JP'032 (Maesaka) failing to teach the limitation of "oxygen and/or nitrogen are physically absorbed at least at the interface between a nonmagnetic metal spacer layers or layers and ferromagnetic films" more specifically stating the examiner "agrees with the applicant that JP '032 fails to teach that at least the interface between a nonmagnetic metal spacer layer or layers and ferromagnetic films is allowed to adsorb physically oxygen and/or nitrogen;" it is clarified that at the time of the previous cited rejection, JP '032 was to be relied upon for adding argon or other rare gases to oxygen or nitrogen to control the amount (concentration) of oxygen or nitrogen to be provided to layer, since Egelhoff had already taught such absorption of gases between the interfaces [i.e. pg 6143, col 2]. It is not to say that the examiner agrees that JP '032 does not teach "at least the interface between a nonmagnetic metal spacer layer or layers and ferromagnetic films is allowed to adsorb physically oxygen and/or nitrogen," wherein a stance could be made that a film containing other materials such as oxygen would innately have at least some parts of the film's surface contain such materials.

Again, in regards to arguments of Shimizu, the prior art is provided to teach adding argon or other rare gases to oxygen or nitrogen to control the amount (concentration) of oxygen or nitrogen to be provided to layer, since Egelhoff had already taught such absorption of gases between the interfaces [i.e. pg 6143, col 2].

Art Unit: 1715

It is further noted, that the amendments submitted on 03/04/10 would be entered because the limitation "providing a nonmagnetic substrate; forming a metal underlayer on said substrate; forming a ferromagnetic metal layer" appears to clarify the language of the previous cited limitation "a step of forming successively a nonmagnetic substrate, a metal underlayer and a ferromagnetic metal layer in a multilayer" and the fact that the newly amended claims would still be rejected over the prior art of record.

/Frederick J. Parker/

Primary Examiner, Art Unit 1715

/M. C. L./

Examiner, Art Unit 1792